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ABSTRACT

The objective of the study was to identify the characteristics of the superior, the subordinate, and the situation which were related to the manner in which the "Management by Objectives" (MBO) process is carried out. Data collected from 112 managers in a national industrial firm was used in the analysis. Previous research with this data had demonstrated that the manner in which the MBO process was carried out influenced the results obtained with the MBO approach. A number of factors were found to be related to characteristics of the goals established, the procedures used to establish the goals, and how frequently performance was reviewed with respect to these goals. How the superior's boss carried out the MBO process with him, the superior's personality, his perceptions of higher management support and concern for the MBO program, and the competence of his subordinates all were significantly related to how the superior implemented the MBO process with his subordinates. (Author)

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FACTORS RELATED TO HOW SUPERIORS ESTABLISH GOALS AND REVIEW PERFORMANCE FOR THEIR SUBORDINATES*

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Previous Relevant Research

Three years ago Carroll and Tosi conducted a study at the Black and Decker Company of a "Management by objectives' system which had been installed there.[1] Interviews were conducted with a random sample of fifty managers in the firm and a fifty item questionnaire was constructed and administered to a sample of 150 managers along with a basic personality test using the forced choice format. The interview study was designed to elicit general opinions about the "management by objectives" approach and to identify the aspects of the MBO process which were most critical in order to study them more thoroughly in a questionnaire study. The questionnaire study was designed to determine the consequences of carrying out the goal setting and performance review process in different ways. This study was made possible by the fact that the organization had not designated specifically how the MBO program was to be implemented and different managers carried it out in different ways. Many findings emerged from these studies. For example, it was found that the degree of subordinate participation in the establishment of goals and the number of goals established was not related in any way to performance levels achieved or reactions to the superior or to the "management by objectives" program. Clarity of goals was found to be significantly related to effort expenditures, performance level achieved, and reactions to the superior and to the program. The study also indicated many relationships between such review process factors as the frequency of review and the amount of criticism given by the superior and

the performance and the reactions of the subordinate. Differences in approaches for establishing goals and for carrying out the review process were also related to performance and subordinate reactions when managers were grouped into approximately equal "high" and "low" groups on a number of situational and personality characteristics. For example, findings indicated that difficult goals resulted in higher effort expenditures for managers high in self esteem but lower effort for managers low in self esteem. Other findings were that less intelligent managers needed more direction than more intelligent managers and that managers perceived a relationship between performance and rewards responded to difficult assignments with higher effort expenditures. Managers low in job interest responded more to changes in the manner in which the goal setting and review process was carried out than managers high in job interest since the latter had build-in motivation. Managers high in "need for structure" responded most favorably to frequent review of performance. These findings and many others have been written up in several articles.[2]

Since this previous research did establish that carrying out the MBO process in different ways was related to differences in reactions to the MBO approach and to differences in the results attained with the MBO program, it seemed worthwhile to investigate the factors which are related to how the superior carries out the MBO process. By the MBO process is meant the manner in which goals are established and performance is reviewed with respect to such goals. Such an analysis has been completed and is described in this report.

Objective of the Study

The objective of the study was to identify the characteristics of the superior and his situation which were related to the manner in which he carried out the MBO process. Such a study could point out possible methods for improving the effectiveness of a MBO program.

Methodology

Sample

The original Black and Decker sample of managers contained 112 managers. This sample was analyzed to identify superior/subordinate pairs for which research data was available. Seventy-seven such pairs were identified. The result of the managers in the sample did not have a superior or a subordinate among the managerial respondents.

Data Collection

For each manager in the superior/subordinate pairs, there was available a fifty item questionnaire developed by Carroll and Tosi. The items in this questionnaire were used to construct scales measuring various aspects of the goal setting process and various aspects of the performance review process. Also, the questionnaire was used to develop scales measuring reactions to the MBO program, attitudes toward the superior and the organization, and results obtained by the subordinate under the MBO program. In addition to the questionnaire, the Ghiselli Self-Description Inventory, a forced-choice type of personality inventory, was completed by all managerial respondents. Eight personality scales of the Ghiselli were used in the analysis. Ratings on performance and promotability

were also available for about forty managers in the total sample.

Hypotheses

A number of general hypotheses were developed to provide guides for the selection of variables to be analyzed. These hypotheses were derived from results of previous research studies and on an "a priori" basis.

Hypothesis 1. The manner in which the MBO process is carried out by one's superior influences the manner in which a manager carries out the MBO process with his subordinates.

The well known study at International Harvester indicated that the superior's style of supervision is related to the subordinate's style of supervision.[3] One would expect this to be true of the MBO process as well especially when the MBO program is new and the exact procedures to be used by managers in implementing the MBO program were not specified as at the company studied. Here the superior might well serve as a model of what to do in this ambiguous situation.

Hypothesis 2. Superiors who believe that the organization supports the MBO program will do a more effective job of carrying out the MBO process with their subordinate.

Several previous studies have indicated that managers are more enthusiastic about a program when they believe that the organization is serious about it. For example, Tosi and Carroll[4] found that managerial orientation to MBO was more positive when they believed the organization supported it and Carroll and Nash[5] found that perceived organizational support was related to more positive attitudes toward management development training. One

would expect that managers would not spend a lot of time and energy on a new program unless that program was an important one from the organization's point of view, and the organization would lend a manager support in carrying out his part of the program. Since previous research by Carroll and Tosi[6] indicates that more favorable results to a MBO occur when the goals that are established are more difficult and clear and when the frequency of feedback is higher, these MBO process characteristics can be used to measure how effectively a manager is carrying out the MBO program.

Hypothesis 3. Superiors who are more satisfied with their superiors and with their job situation (including pay) will do a more effective job of carrying out the MBO process with their subordinates.

Carroll and Nash[7] and House and Tosi[8] found that managers who were more satisfied with their jobs responded more favorably to management development training. One might expect a similar relationship with a MBO program since managers who value the organization should be more positive toward programs of that organization.

Hypothesis 4. Superiors who believe their bosses will be very concerned about goal failure will do a more effective job of carrying out the MBO process with their subordinates.

One would expect that superiors would be more concerned about the goal success of their subordinates if their own bosses would be concerned about their degree of goal success since often the accomplishment of a superior's goals depends on his subordinates meeting their goals. To insure the successful accomplishment of their subordinate's goals, the superior will do an effective job.

Hypothesis 5. Superiors will carry out the MBO process differently for subordinates who differ in competence.

One would expect that superiors would have to tailor goals to fit the capabilities of the subordinate. For example, one would expect that their less effective subordinates are assigned less difficult goals, that such subordinates are allowed less influence in establishing goals, and that their performance is reviewed more frequently.

Hypothesis 6. The personality of the superior will be related to how he carries out the MBO process with his subordinates.

One would expect that the personality of the superior would influence how goals were established and how performance was reviewed. For example, managers who are more cautious might be expected to establish less difficult goals for their subordinates and might allow such subordinates less influence on setting goals than managers who are less cautious.

Hypothesis 7. Superiors who have subordinates who carry out the MBO process in a similar manner to them will have different personalities than superiors who have subordinates who carry out the MBO process in a different manner than them.

One might expect that superiors who serve as models for the subordinate would have higher self confidence, have higher initiative, and in general display those managerial characteristics thought to be related to general managerial effectiveness. One would not expect that managers who reflect uncertainty and a lack of competence would be imitated by their subordinates.

Hypothesis 8. Similarity in the manner in which the superior and subordinate carry out the MBO process will be related to similarity in personality between the superior and the subordinate.

Superiors who are similar to subordinates in personality might be imitated more by subordinates than superiors who are different from their subordinates in personality. A manager has a self concept and might ask himself how a person like him should behave in a particular situation. His superior's approach to MBO would then be a guide here.

Analysis of the Data.

A number of different types of analyses were made depending upon the specific hypothesis in question. Typically, correlation analysis was used but chi square and the "t" test were also employed. The sample size also varied from one analysis to another since in some cases data was available for only a certain number of managers and because in the total sample some superiors had more than one subordinate and it was considered desirable to handle "unique" superior/subordinate pairs only in some of the analyses.

Results

Hypothesis 1. This general hypothesis stated that a subordinate's manner of carrying out the MBO process is related to the way his superior carries out the MBO process and it was tested by correlating how the MBO process was carried out for the superiors to how the MBO process was carried out for their subordinates. The analysis indicated that there did seem to be a significant relationship between how various aspects of the MBO process were carried out for the superior and how the goals setting and review

process was carried out for the subordinates of these superiors, thus supporting the hypothesis. For example, goal clarity for the superior correlated r = .30 to goal clarity for the subordinate. Subordinate participation in the establishing of goals for the superior correlated r = .28 with subordinate participation in the establishing of goals for managers reporting to these superiors. The frequency of performance review for the superior correlated r = .38 with the frequency of performance review for the subordinates. The establishment of priorities for goals for the superior correlated r = .27 with the establishment of priorities for goals for the subordinate. All of these correlations are significant at the .01 level. Difficulty of goals and number of goals for the superior was not significantly related to difficulty and number of goals for the subordinate. These latter two aspects might be expected to vary with the nature of the job of the subordinate and perhaps also with his competence, and thus less imitation would be present.

Hypothesis 2. The second hypothesis was that superiors will be more effective in carrying out the MBO process if they feel the organization supports the MBO program. It was tested by correlating the superior's perceived organizational support for the MBO program to their subordinate's reports on goal clarity, goal difficulty, and frequency of performance review. In the analysis, organizational support for the MBO program as perceived by the superior correlated r = .16 for goal clarity, r = .17 for goal difficulty, and r =.27 for frequency of review for the subordinates of this superior. Only the latter correlation for frequency of review is statistically

significant although the first two correlations only barely miss significance at the .05 level. Thus, there does appear to be some limited support for this hypothesis.

Hypothesis 3. The third hypothesis said that managers who are more satisfied will be more effective in the MBO program and this was tested by correlating satisfaction of the superior with his boss and situation to the clarity and difficulty of assigned goals and to the frequency of performance review as reported by the subordinate. The superior's satisfaction with his superior correlated r = .24 with goal clarity, r = .28 with goal difficulty, and r = .14 with frequency of performance review for the subordinate. Only the latter correlation is not satistically significant. Satisfaction with the situation (job and pay) for the superior was not significantly related to goal clarity, goal difficulty, or frequency of performance review for the subordinate. Thus satisfaction with the boss but not satisfaction with the situation did seem to have a limited relationship to more superior effectiveness in carrying out the MBO process.

Hypothesis 4. This hypothesis stated managers will carry out the MBO process more effectively with their subordinates if they feel their bosses would be very concerned if they failed to achieve their goals. Here the superior's perception of the degree of concern that the superior's boss would feel if the superior did not meet his goals was correlated to goal clarity, goal difficulty, and frequency of performance review for the subordinate. In this analysis the degree of concern of the superior's boss for goal failure correlated r = .16 with goal clarity, r = .22 with goal difficulty, and r = .24 with frequency of performance review for the superior's

subordinates. Only the first of these correlations is not satatistically significant at the .05 level and that approaches statistical significance. There is, then, limited support for this hypothesis.

Hypothesis 5. The fifth hypothesis was that the competence of the subordinate will be related to how his superior carries out the MBO process. In testing this hypothesis, the promotability and performance ratings given to subordinates were correlated to how goals were established and how frequently performance was reviewed by the superior. Promotability and performance ratings were in the form of four category scales and were available for 40 managers only. Promotability ratings correlated r = .31 with subordinate influence in establishing goals. This is statistically significant at the .05 level. The relationship between current performance ratings and subordinate influence in setting goals was .22 which only approaches significance at the .05 level with a sample of 40 members. These competence ratings were not significantly related to any other MBO process variables. Thus, the primary finding here was that the quality of the subordinate is related to how much participation his superior allows him in the establishment of goals for his position as one might expect.

Hypothesis 6. This is a very general hypothesis which states that the personality of the superior should be expected to be related to how he carries out the MBO process with his subordinates. Cautiousness, especially, was hypothesized to be a signficant predictor of how the MBO process was carried out. This hypothesis was tested by correlating the scores on different scales on the

Ghiselli Self Description Inventory for the superior to the various goal setting and review process scales as reported by his subordinates.

In general this analysis indicated the superior's personality trait that was most consistently related to how the MBO process was carried out was "Decision Making Approach" which measures degrees of decisiveness versus cautiousness in decision making. Higher decisiveness and less cautiousness for superiors correlated positively to goal clarity ($r = .19$), goal difficulty ($r = .24$), subordinate participation in establishing goals ($r = .37$), and number of goals ($r = .26$). All these correlations are statistically significant.

Self-assurance, which is a measure of confidence in one's ability to solve problems that confront one, correlated $r = .24$ with goal clarity, $r = .31$ with goal difficulty, $r = .27$ with number of goals, and $r = .25$ with frequency of feedback. All of these correlations are significant at the .05 level of significance.

The other personality characteristics measured were not related to more than one or two of the MBO process scales. In general, the results do indicate that the superior's cautiousness is a good predictor of how the MBO process is carried out as hypothesized. As indicated previously, one would expect that the more cautious manager as opposed to the more decisive and confident manager would set less difficult goals, fewer goals, and would allow his subordinates less influence in goals setting. These were the relationships found. He might have communicated less clear goals because he provided so much information about them he only confused the subordinate. Self-assurance correlates $r = .46$

with decisiveness versus cautiousness in our sample and thus measures somewhat similar attributes of the manager. Both of these GSDI scales have been found to be predictive of general managerial effectiveness.

Hypothesis 7. This hypothesis stated that superiors with subordinates who carry out the MBO process in a similar manner to how they carry it out will be different from superiors who may not be imitated by their subordinates. This hypothesis was tested differently than the preceding hypotheses. First, twenty-five unique superior/subordinate pairs (only one subordinate of a particular superior was randomly chosen for analysis) were identified. This sample of twenty-five pairs was split into two groups on the basis of similarity between the superior and the subordinate in the manner in which the MBO process was carried out. Twelve of the superior/subordinate pairs had quite similar scores on at least three of the following MBO process scales: goal clarity, goal difficulty, subordinate participation in setting goals, and feedback frequency. The other thirteen superior/subordinate pairs were different in the way they carried out the MBO process. Then the mean score on each of the eight GSDI personality scales plus the Carroll/Tosi Need for Policy scale for each of these two groups was calculated and compared. There were no statistically significant differences between the two groups on any scale.

Discussion of Results

The findings of this study do not, of course, prove or disprove the hypotheses stated. Since correlational analysis was primarily used we can only say that the results obtained are

congruent or not congruent with what one might expect to find if the hypotheses were true. Certainly replication of this study would be desirable. An experimental study would be even more desirable. If we can, however, assume that the relationships found are valid, some tentative conclusions and implications for practice may be drawn from the results.

The results would seem to indicate that in carrying out the MBO process there is some imitation of superiors by subordinates. Of course, it is possible this might be more true of a new MBO program such as the one studied than where subordinates have had time to work out their own approaches for implementing MBO. The superior imitation that occurs seems somewhat more likely when the subordinate is similar to the superior in personality. The results also indicate that managers who are more satisfied with their superiors, who perceive the organization supports the MBO program, who feel their boss would be concerned if goals were not met, and who are more decisive and self confident will do a more effective job in carrying out the MBO process than managers lower on these characteristics. In addition, the results seem to indicate that the competence of the subordinate is related to how much influence his superior allows him in setting goals for his position. These findings suggest that an MBO program is more likely to be successful when managers at the top of the organization set a good example by carrying out the program in an effective manner and when they communicate that the MBO program is important and that they will be concerned if their subordinates fail to reach assigned goals. The findings also suggest that the MBO program might be less

effectively carried out in organizations or organizational units where the superiors are not esteemed on where the superiors do not possess at least some of the characteristics often associated with higher managerial competence such as decisiveness and self confidence.

Footnotes

[1]Stephen J. Carroll, Jr. and Henry L. Tosi. "Personality Factors and the Management by Objectives Approach." Administrative Science Quarterly. September, 1970. Stephen J. Carroll, Jr. and Henry L. Tosi. "The Relationship of Characteristics of the Review Process as Moderated by Personality and Situational Factors to the Success of Management by Objectives Approach." Academy of Management Proceedings. 29th Annual Meeting, Cincinnati, Ohio, 1969, and Henry L. Tosi and Stephen J. Carroll, Jr. "Some Factors Affecting the Success of Management by Objectives." Journal of Management Studies. May, 1970.

[2]Carroll and Tosi, op. cit.

[3]E. A. Fleishman, E. F. Harris, and H. E. Burtt. Leadership and Supervision in Industry, (Columbus: Personnel Research Board, Ohio State University, 1955).

[4]Henry L. Tosi and Stephen J. Carroll, Jr. "Managerial Reactions to Management by Objectives." Academy of Management Journal. December, 1968.

[5]Stephen J. Carroll, Jr. and Allan N. Nash. "Some Personal and Situational Correlates of Reactions to Management Development Training." Academy of Management Journal. June, 1970.

[6]Carroll and Tosi, op. cit.

[7]Carroll and Nash, op. cit.

[8]Robert J. House and Henry L. Tosi. "An Experimental Evaluation of a Management Training Program." Journal of Academy of Management. December, 1963.